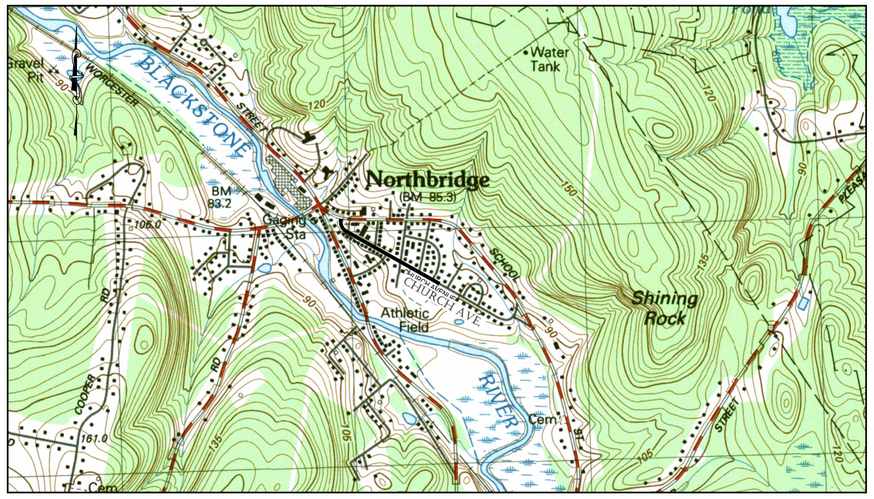
CHURCH AVENUE
RECONSTRUCTION PROJECT - PHASE 1
FOR
TOWN OF NORTHBRIDGE, MASSACHUSETTS



LOCUS MAP
SCALE: 1" = 1,000'

SHEET TITLE	SHEET NUMBER
COVER SHEET	C-0.0
GENERAL NOTES, ABBREVIATIONS & LEGEND	C-1.0
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DRAWING LIST

APPLICANT:

TOWN OF NORTHBRIDGE

DEPARTMENT OF PUBLIC WORKS - HIGHWAY DIVISION
11 FLETCHER STREET
WHITINSVILLE, MA 01588
P: 508-234-0816

OWNER:

TOWN OF NORTHBRIDGE

TOWN CLERK OFFICE
7 MAIN STREET
WHITINSVILLE, MA 01588
P: 508-234-2001

CIVIL ENGINEERING & LAND SURVEYING:

TURNING POINT ENGINEERING

P.O. BOX 757, SUTTON, MA 01590
P: 508-381-1515

OWNER OF RECORD:
TOWN OF NORTHBRIDGE
7 MAIN STREET
WHITINSVILLE, MA 01588

NORTHBRIDGE ASSESSORS INFORMATION:
MAP 22A

DEED REFERENCES:
BK. 2162, PG. 105, BK. 7737, PG. 65, & BK. 15933, PG. 377

PLAN REFERENCES:
P.B. 89, PL. 2
P.B. 138, PL. 105
P.B. 167, PL. 45
P.B. 250, PL. 21
P.B. 259, PL. 92
P.B. 293, PL. 97
P.B. 388, P.B. 36
P.B. 413, PL. 97
P.B. 719 PL. 80
P.B. 926, PL. 111

PROPERTY INFORMATION

TURNING POINT ENGINEERING
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COMMONWEALTH OF MASSACHUSETTS
JAMES A. FERRARDINO
No. 41717
REGISTERED PROFESSIONAL ENGINEER

PROJECT NAME
CHURCH AVENUE
RECONSTRUCTION PROJECT - PHASE 1
CHURCH AVENUE
NORTHBRIDGE, MASSACHUSETTS

PREPARED FOR
TOWN OF NORTHBRIDGE DPW
11 FLETCHER STREET
WHITINSVILLE, MA 01588

REVISIONS

REV.	DATE	DESCRIPTION
1	3/20/25	ISSUDED FOR BID

PROJECT NO. TPE-1137
DESIGNED BY TRB, WCN
CHECKED BY RMM, BW
DATE MARCH 1, 2024
CAD FILE H:\1137-Church Ave_SP.dwg
PLAN NO. L-415

SHEET TITLE
COVER SHEET

SHEET NO.
C-0.0

GENERAL NOTES

PART 1 – TOPOGRAPHIC AND PROPERTY LINE INFORMATION

1. NOTICE TO CONTRACTOR: THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION SHALL BE TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.

2. PROPERTY LINE AND TOPOGRAPHY:

- EXISTING PROPERTY BOUNDARY INFORMATION TAKEN FROM A COMBINATION OF AVAILABLE PUBLIC RECORDS AND FIELD SURVEY.
- EXISTING TOPOGRAPHIC INFORMATION BASED UPON AN ON THE GROUND SURVEY PERFORMED 9/23, 9/27, 10/10, 12/4 & 12/6 2023.

3. DATUM: NAVD 88

4. COORDINATE SYSTEM: MASSACHUSETTS STATE PLANE 83

5. CONSTRUCTION STAKING CONTROL: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCH MARKS NECESSARY TO PERFORM THE WORK.

6. FLOODPLAIN: THE PROPERTY DOES NOT LIE IN A FLOOD HAZARD AREA OR 100-YEAR FLOODPLAIN ACCORDING TO THE MOST RECENT FLOOD INSURANCE RATE MAP #25027C0844E, EFFECTIVE 7/4/11.

PART 2 – EXECUTION

2.1 DEMOLITION, SEDIMENTATION, AND EROSION CONTROL

A. THE FIRST STAGE INVOLVES ACTIVITIES NEEDED TO ADDRESS STORMWATER MANAGEMENT, EXCAVATING MATERIAL DESIGNATED FOR OFF-SITE REMOVAL OR ON-SITE RELOCATION AND FENCING SELECTED AREAS. STAGE ONE WILL PREPARE SITE FOR CONVENTIONAL CONSTRUCTION.

B. THE SECOND STAGE WILL CONSIST OF ROUTINE CONSTRUCTION INVOLVING BUILDING, PAVING, LANDSCAPING, AND UTILITIES.

C. THERE ARE GENERAL PHASES OF CONSTRUCTION. IN EACH PHASE OF CONSTRUCTION, IMPLEMENT STANDARD EROSION AND SEDIMENT CONTROL PRACTICES PRIOR TO INITIATING EARTH DISTURBING ACTIVITIES, AND MAINTAIN THESE PRACTICES THROUGHOUT THE COURSE OF CONSTRUCTION.

D. DURING DEMOLITION, EXCAVATIONS AS MUCH AS 20 FEET MAY BE REQUIRED FOR THE INSTALLATION OF FOUNDATIONS, RETAINING WALLS, AND UTILITIES. EXCAVATIONS SHALL BE CUT TO A STABLE SLOPE OR BE TEMPORARILY BRACED, DEPENDING ON THE EXCAVATION DEPTHS AND THE ENCOUNTERED SUBSURFACE CONDITIONS. THE CONTRACTOR MAY BE REQUIRED TO SUBMIT EXCAVATION AND SLOPE STABILIZATION METHODS PRIOR TO THE START OF CONSTRUCTION TO THE ENGINEER FOR REVIEW.

E. BASED ON THE COMPOSITION OF SOILS ENCOUNTERED DURING THE EXPLORATION PROGRAM, SITE SOILS ARE GENERALLY CLASSIFIED AS TYPES B, C, AND D SOILS AS DEFINED BY (USGS) NATIONAL RESOURCES CONSERVATION SERVICE (NRCS), FORMERLY SOIL CONSERVATION SURVEY (SCS). TEMPORARY CONSTRUCTION SLOPES SHOULD BE DESIGNED IN STRICT COMPLIANCE WITH THE MOST RECENT GOVERNING REGULATIONS. STOCKPILES SHOULD BE PLACED WELL AWAY FROM THE EDGE OF THE EXCAVATION AND THEIR HEIGHT SHOULD BE CONTROLLED TO PREVENT SURCHARGE TO THE SIDES OF THE EXCAVATION. SURFACE DRAINAGE SHOULD BE CONTROLLED TO AVOID FLOW OF SURFACE WATER INTO THE EXCAVATIONS.

F. CONSTRUCTION SLOPES SHOULD BE REVIEWED FOR MASS MOVEMENT. IF POTENTIAL STABILITY PROBLEMS ARE OBSERVED, WORK SHOULD CEASE AND A GEOTECHNICAL ENGINEER SHOULD BE CONTACTED IMMEDIATELY. THE RESPONSIBILITY FOR EXCAVATION SAFETY AND STABILITY OF TEMPORARY CONSTRUCTION SLOPES SHOULD LIE SOLELY WITH THE CONTRACTOR.

2.2 – TYPICAL PRACTICES TO BE APPLIED TO THE SITE INCLUDE THE FOLLOWING:

A. PRIOR TO EARTH DISTURBANCE IN ANY WORK AREA, INSTALL EROSION CONTROL BARRIERS BETWEEN THE WORK AREA AND THE SURFACE WATER RESOURCE TO WHICH IT DRAINS.

B. DISCHARGE WATER FROM DEWATERING OPERATIONS TO A TEMPORARY SILTATION TRAP OR SEDIMENTATION BASIN.

C. PROVIDE TEMPORARY BERMS AND SWALES TO DIVERT SURFACE WATER AWAY FROM THE AREAS THAT WILL BE EXPOSED BY CONSTRUCTION ACTIVITY TO MINIMIZE THE AMOUNT OF SURFACE WATER COMING INTO CONTACT WITH EXPOSED SOILS. PROVIDE STABLE OUTLETS FOR THESE DEVICES, AND LINE OR VEGETATE THESE DIVERSIONS TO PROVIDE FOR THEIR STABILITY DURING CONSTRUCTION.

D. LIMIT THE EXTENT OF EXPOSED SOILS TO AREAS THAT CAN BE WORKED AND RESTABILIZED WITHIN THE CONSTRUCTION SEASON AND DURING THE SPECIFIC CONSTRUCTION PHASE.

E. WHEN EARTHWORK CONSTRUCTION ACTIVITY IN AN AREA IS COMPLETE, STABILIZE THE AREA WITH A SUITABLE SURFACE AS DESCRIBED BELOW.

F. IN ADDITION TO THESE PRACTICES, FOLLOW THE SPECIAL PRACTICES DESCRIBED BELOW. COMPLY WITH THE DIRECTIONS OF THE APPLICANT'S REPRESENTATIVE TO ADDRESS EROSION AND SEDIMENTATION CONDITIONS THAT MAY ARISE ON A CASE BY CASE BASIS DURING CONSTRUCTION.

G. THE FOLLOWING IS A DESCRIPTION OF MINIMUM CONSTRUCTION REQUIREMENTS AND DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES WITH REGARD TO DETERMINING THE ADEQUACY OF MEANS AND METHODS OF CONSTRUCTION.

2.3 – CONSTRUCTION SEQUENCING

A. SEQUENCING SHALL BE AS SHOWN ON THE PLAN AND AS DICTATED BY THE REQUIREMENTS OF CONSTRUCTION.

2.4 – MAINTENANCE

A. DURING THE PERIOD OF CONSTRUCTION AND/OR UNTIL LONG TERM VEGETATION IS ESTABLISHED:

B. SEEDED AREAS WILL BE FERTILIZED AND RESEEDED AS NECESSARY TO INSURE VEGETATION ESTABLISHMENT.

C. TEMPORARY SEDIMENTATION BASINS WILL BE CHECKED AFTER EACH SIGNIFICANT RAINFALL AND CLEANED AS NEEDED TO RETAIN STORAGE CAPACITY.

D. TEMPORARY DRAINAGE SWALES WILL BE CHECKED WEEKLY AND REPAIRED WHEN NECESSARY.

E. THE EROSION CONTROL BARRIERS AND OTHER EROSION AND SEDIMENT CONTROL MEASURES/DEVICES SHALL BE INSPECTED, CLEANED, REPLACED AND/OR REPAIRED AS NECESSARY, PERIODICALLY AND AFTER EACH SIGNIFICANT RAINFALL.

F. SWEEP ON-SITE PAVED AREAS AND OFF-SITE STREETS AS NECESSARY TO PREVENT SILT AND DEBRIS ORIGINATING ON-SITE FROM ENTERING CLOSED DRAINAGE SYSTEMS AND/OR ENVIRONMENTALLY SENSITIVE AREAS. WHEN NECESSARY UTILIZE WATER SPRAYING, SURFACE ROUGHENING AND/OR APPLY POLYMERS, SPRAY-ON TACKIFIERS, CHLORIDES AND BARRIERS FOR DUST CONTROL.

2.5 – GENERAL

A. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH (USDA) NATURAL RESOURCES CONSERVATION SERVICE (NRCS, FORMERLY SCS) GUIDELINES AND ALL LOCAL, COUNTY AND MUNICIPAL REGULATIONS.

B. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY SITE WORK OR EARTHWORK OPERATIONS, SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL SITE WORK IS COMPLETE AND GROUNDCOVER IS ESTABLISHED.

C. ALL WORK SHALL BE IN ACCORDANCE WITH THE PERMITS AND APPROVALS ISSUED AND THE CONSTRUCTION SPECIFICATIONS. BLASTING IS PROHIBITED ON THE PROJECT SITE.

D. STOCKPILES SHALL BE SURROUNDED ON THEIR PERIMETERS WITH STAKED STRAW WATTLES AND/OR SILTATION FENCES TO PREVENT AND/OR CONTROL SILTATION AND EROSION.

E. TOPS OF STOCKPILES SHALL BE COVERED IN SUCH A MANNER THAT STORMWATER DOES NOT INFILTRATE THE MATERIALS AND THEREBY RENDER THE SAME UNSUITABLE FOR FILL USE.

F. ALL DISTURBED OR EXPOSED AREAS SHALL BE PERMANENTLY STABILIZED WITHIN FIVE (5) BUSINESS DAYS OF COMPLETION OF CONSTRUCTION OF A GIVEN AREA. EXPOSED AREAS WHERE NO WORK HAS OCCURRED FOR FOURTEEN (14)DAYS SHALL BE TEMPORARILY STABILIZED WITH HYDROSEED OR OTHER APPROVED METHOD.

G. THE LOCATION OF TEMPORARY DRAINAGE SWALES AND SEDIMENTATION TRAPS ARE APPROXIMATE ONLY AND SHALL BE RELOCATED AS REQUIRED AS CONSTRUCTION PROGRESSES.

H. HAYBALE DIKES SHALL BE CONSTRUCTED AT ALL EXISTING & PROPOSED CATCH BASINS LOCATED IN FILL AREAS & SUBJECT TO STORMWATER RUN-OFF FROM PROPOSED FILL AREAS DURING CONSTRUCTION, OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. NO SEDIMENTS SHALL ENTER THE ON-SITE OR OFF-SITE DRAINAGE SYSTEMS AT ANY TIME.

I. CULVERT/PIPE INLETS AND OUTFALLS SHALL BE PROTECTED BY STRAW WATTLE FILTERS UNTIL DISTURBED AREAS ARE PERMANENTLY STABILIZED.

J. EROSION CONTROLS SHALL BE PERIODICALLY INSPECTED AND REPLACED AS REQUIRED.

K. ALL PROPOSED NON-RIPRAP SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED WITH EXCELSIOR BLANKETS AND PROTECTED FROM EROSION.

L. THE CONTRACTOR SHALL KEEP ON SITE AT ALL TIMES ADDITIONAL STRAW WATTLES AND EXTRA SILTATION FENCING FOR INSTALLATION AT THE DIRECTION OF THE OWNER'S REPRESENTATIVE OR LOCAL OFFICIALS TO MITIGATE ANY EMERGENCY CONDITION.

M. DISPOSAL OF ALL DEMOLISHED MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE HAULED OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL MUNICIPAL REQUIREMENTS.

N. THE CONTRACTOR SHALL PROTECT AND/OR CAP OFF ALL EXISTING ON-SITE UTILITY SERVICES DESIGNATED AS SUCH ON THESE DRAWINGS.

O. THE LIMIT OF WORK LINE FOR THE AREA TO BE CLEARED AND GRUBBED SHALL BE THE SAME AS THE LIMIT OF WORK LINE NECESSARY FOR GRADING PURPOSES, (I.E., THE GRADING LIMITS AROUND THE PERIMETER OF THE PROJECT AREA).

P. THE AREA OR AREAS OF ENTRANCE AND EXIT TO AND FROM THE SITE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

Q. FOLLOWING THE ADDITION OF A BINDER COURSE, THE CONTRACTOR SHALL SWEEP ALL ON-SITE PAVEMENT, IF NECESSARY, UNTIL ALL SITE CONSTRUCTION IS COMPLETED.

R. THE MATERIALS AND METHODS USED IN THE CONSTRUCTION OF ROADWAYS SHALL CONFORM TO THE REQUIREMENTS OF THE TOWN CONSTRUCTION STANDARDS AND SPECIFICATIONS. WHEN NO CITY SPECIFICATION IS PROVIDED THE MATERIALS AND METHODS USED IN THE CONSTRUCTION OF ROADWAYS SHALL CONFORM TO THE REQUIREMENTS OF "THE COMMONWEALTH OF MASSACHUSETTS, DEPARTMENT OF PUBLIC WORKS, STANDARDS & SPECIFICATIONS FOR HIGHWAYS & BRIDGES," LATEST EDITION.

PART 3 – UTILITIES

3.1 – WATER DISTRIBUTION AND FIRE PROTECTION

A. ALL NEW WATER MAINS SHALL BE CEMENT LINED DUCTILE IRON (CLDI), CLASS 52 MINIMUM.

B. GENERALLY, WATER MAIN FITTINGS IDENTIFIED ON THIS DRAWING ARE SHOWN FOR INSTALLATION LOCATION PURPOSES. THE CONTRACTOR IS ADVISED THAT NOT ALL FITTINGS AND SUPPLY LINES ARE NOTED, SHOWN, OR INDICATED.

C. ALL HYDRANTS SHALL BE INSTALLED WITH A 6" CLDI LATERAL AND SHALL BE INSTALLED WITH A 6" GATE VALVE, BOX, AND TEE FITTING. ALL HYDRANTS SHALL MEET AND BE INSTALLED IN ACCORDANCE WITH ALL STANDARDS SPECIFIED BY WHITINSVILLE WATER COMPANY.

D. ALL WATER MAIN APPURTENANCES, MATERIALS, AND METHODS OF INSTALLATION SHALL MEET OR EXCEED ALL REQUIREMENTS AND STANDARDS SPECIFIED BY WHITINSVILLE WATER COMPANY.

E. PRESSURE AND LEAKAGE TEST, DISINFECTION AND FLUSHING SHALL BE IN ACCORDANCE WITH THE WHITTINSVILLE WATER COMPANY STANDARDS AND REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS IN CONNECTIONS WITH UTILITY TESTS, FLUSHING, AND INSPECTIONS AS REQUIRED BY THE LOCAL MUNICIPALITY.

F. EXISTING SERVICES SHALL BE CUT AND A WATERTIGHT PLUG SHALL BE INSTALLED. EXISTING GATE VALVES TO BE ABANDONED SHALL BE PERMANENTLY CLOSED AND CAPPED, AND WATER SERVICES SHOULD BE SHUT OFF AT THE MAIN CORPORATION.

3.2 – UTILITY SEPARATION

A. A MINIMUM 10 FEET CLEAR HORIZONTAL DISTANCE SHALL BE MAINTAINED BETWEEN SANITARY SEWER MAINS AND WATER MAINS. WHENEVER CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET, THE WATER MAIN SHALL BE LAID IN A SEPARATE TRENCH AND THE ELEVATION OF THE CROWN OF THE SEWER SHALL BE AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER MAIN.

A. A MINIMUM OF 18" VERTICAL CLEARANCE SHALL BE MAINTAINED WHERE WATER MAINS CROSS STORM DRAIN LINES.

B. WHERE SANITARY SEWERS CROSS WATER MAINS, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST TWO FEET BELOW THE INVERT OF THE WATER MAIN. IF THE ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THIS REQUIREMENT, THE CONTRACTOR SHALL DO THE FOLLOWING:

THE WATER MAIN SHALL BE RELOCATED TO PROVIDE THIS SEPARATION OR CONSTRUCTED WITH MECHANICAL-JOINT PIPE FOR A DISTANCE OF TEN FEET ON EACH SIDE OF THE SEWER. ONE FULL LENGTH OF WATER MAIN SHALL BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. IN ADDITION, THE WATER MAIN SHALL BE ENCASED IN CONCRETE.

C. PRIMARY ELECTRICAL ENCASED CONDUIT MUST BE SEPARATED FROM GAS BY 3' MIN. AND FROM OTHER UTILITIES BY 2' MINIMUM.

D. TELEPHONE AND FIRE ALARM WHICH SHARE THE SAME TRENCH MUST HAVE A 1' VERTICAL SEPARATION.

E. GAS MAINS MUST BE SEPARATED FROM OTHER UTILITIES BY 2' MINIMUM.

PART 4 – QUALITY ASSURANCE

A. COMPLY WITH GOVERNING CODES AND REGULATIONS. PROVIDE PRODUCTS FROM ACCEPTABLE MANUFACTURERS. USE EXPERIENCED INSTALLERS. DELIVER, HANDLE, AND STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

B. CONFORM TO CONDITIONS OF APPROVAL ISSUED BY REGULATORY AGENCIES INCLUDING, BUT NOT NECESSARILY LIMITED TO, LOCAL PLANNING BOARD, CONSERVATION COMMISSION, CITY COUNCIL, BOARD OF HEALTH, PUBLIC WORKS / HIGHWAY DEPARTMENT, STATE ENVIRONMENTAL PROTECTION DEPARTMENT, AND U.S. GOVERNMENT, ENVIRONMENTAL PROTECTION AGENCY. WHERE CONDITIONS OF REGULATORY APPROVAL DIFFER FROM REQUIREMENTS CONTAINED HEREIN OR ON THE DRAWINGS, COMPLY WITH THE MORE STRINGENT REQUIREMENT.

TYPICAL ABBREVIATIONS

KEY	DESCRIPTION	KEY	DESCRIPTION
N/F	NOW OR FORMERLY	W.C.H.B.	WORCESTER COUNTY HIGHWAY BOUND
BK.	BOOK	BIT.	BITUMINOUS
PG.	PAGE	CONC.	CONCRETE
P.B.	PLAN BOOK	R&R	REMOVE AND REPLACE
PL.	PLAN	R&D	REMOVE AND DISPOSE
BC	BOTTOM OF CURB	CEM.	CEMENT
TC	TOP OF CURB	SGC	SLOPED GRANITE CURB
BW	BOTTOM OF WALL	PCC	PRECAST CONCRETE CURB
TW	TOP OF WALL	HDPE	HIGH DENSITY POLYETHYLENE PIPE
EXIST.	EXISTING	CLDI	CEMENT LINED DUCTILE IRON
PROP.	PROPOSED	RCP	REINFORCED CONCRETE PIPE
TBM.	TEMPORARY BENCHMARK	PVC	POLYVINYL CHLORIDE PIPE
TEMP.	TEMPORARY	INV.	INVERT
N.T.S.	NOT TO SCALE	FES	FLARED END SECTION
TYP.	TYPICAL	OCS	OUTLET CONTROL STRUCTURE
ELEV.	ELEVATION	DMH	DRAIN MANHOLE
BLDG.	BUILDING	CB	CATCH BASIN
BSMT.	BASEMENT	DCB	DOUBLE CATCH BASIN
F.F.E.	FINISHED FLOOR ELEVATION	SMH	SEWER MANHOLE
TOC	TOP OF CONCRETE	CO	CLEANOUT
GAR.	GARAGE	HYD	HYDRANT
TBR	TO BE REMOVED	CO	CLEANOUT
FND	FOUND	O.C.	ON CENTER
D.H.	DRILL HOLE	R=	RADIUS
I.P	IRON PIPE	S=	SLOPE
I.R.	IRON ROD	HC	HANDICAP
S.B.	STONE BOUND	UP	UTILITY POLE
W.C.H.B.	WORCESTER COUNTY HIGHWAY BOUND	WF	WETLAND FLAG

TYPICAL LEGEND

EXISTING		PROPOSED
	PROPERTY LINE	
	EASEMENT LINE	
	TOWN LINE	
	MATCH LINE	
	BUILDING SETBACK	
	CENTERLINE	
	STONEWALL	
—X— —X—	BARBED WIRE FENCE	
—O— —O—	CHAIN LINK FENCE	—O— —O—
—□— —□—	STOCKADE FENCE	—□— —□—
	GRAVEL ROAD	
EOP	EDGE OF PAVEMENT	EOP
CCB	CURB (SEE ABBREVIATIONS)	CCB
	EROSION CONTROL BARRIER	
	TREELINE	
×100.5	SPOT ELEVATION	x100.5
100	INDEX CONTOUR	100
102	INTERMEDIATE CONTOUR	102
	INTERMITTANT STREAM	
	EDGE OF SHORELINE	
D	STORM DRAIN PIPE, FLARED END & RIP-RAP APRON	D
D	STORM DRAIN W/ HEADWALL	D
RD	ROOF DRAIN	RD
FD	FOUNDATION DRAIN	FD
OHW	OVERHEAD WIRE	OHW
E	UNDERGOUND ELECTRIC	E
T	UNDERGOUND TELEPHONE	T
G	GAS	G
W	WATER MAIN	W
WS	WATER SERVICE	WS
S	SEWER LINE	S
FM	FORCE MAIN	FM
	SAWCUT LINE	
☼	LIGHT POLE	✸
UP#	UTILITY POLE	UP#
B	BOLLARD	B
	STREET OR TRAFFIC SIGN	
♿	HANDICAP PARKING SPACE	♿
38	NUMBER OF PARKING SPACES	38
	TRAFFIC FLOW	
E	ELECTRIC MANHOLE	E
T	TELEPHONE MANHOLE	T
S	SEWER MANHOLE	SMH
D	DRAIN MANHOLE	
□	CATCH BASIN	
□□	DOUBLE GRATE CATCH BASIN	
GV	GAS GATE VALVE	GV
WV	WATER GATE VALVE	WV
	HYDRANT	
W	DOMESTIC WELL	W
	DEEP SOIL OBSERVATION HOLE	
	PERCOLATION TEST	
	ELEVATION BENCHMARK	

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PROJECT NO.	TPE-1137
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CHECKED BY	RMM, BW
DATE	MARCH 1, 2024
CAD FILE	H:\1137-Church Ave_SP.dwg
PLAN NO.	L-415

SHEET TITLE

GENERAL NOTES, ABBREVIATIONS & LEGEND

SHEET NO.

C-1.0

H:_PROJECTS\NORTHBRIDGE\1137-NORTHBRIDGE-CHURCH AVENUE\DWG\PERMIT\1137-CHURCH AVE_SP-PHASE-1-REVO.DWG 03-31-25 10:45:08 AM - LAYOUT C1.0

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GRAPHIC SCALE

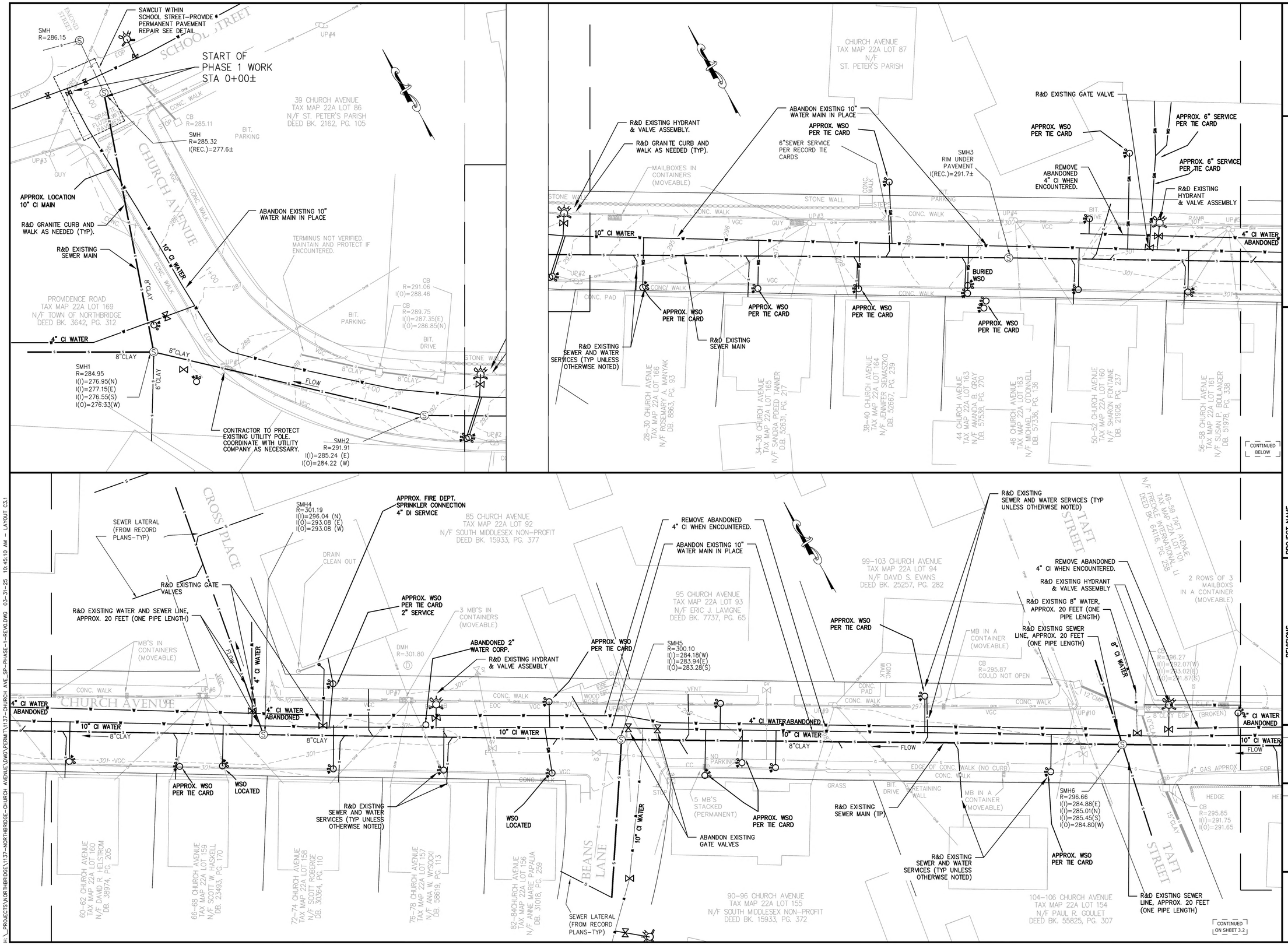
120 0 60 120 240
(IN FEET)
1 inch = 120 feet

SHEET TITLE

SHEET INDEX

SHEET NO.

C-2.0



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GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 feet

SHEET TITLE
EXISTING CONDITIONS & DEMOLITION PLAN
SHEET 1 OF 3

SHEET NO.
C–3.1

H:_PROJECTS\NORTHBRIDGE\1137–NORTHBRIDGE–CHURCH AVENUE\DWG\PERMIT\1137–CHURCH AVE_SP–PHASE–1–REV0.DWG 03–31–25 10:45:10 AM – LAYOUT C3.1

REMOVE ABANDONED 4" CI WHEN ENCOUNTERED.

ABANDON EXISTING 10" WATER MAIN IN PLACE

133 CHURCH AVENUE
TAX MAP 22A LOT 103
N/F GREGORY A. BURNS
DEED BK. 53348, PG. 80

135 CHURCH AVENUE
TAX MAP 22A LOT 103
N/F RUTTERS BROOK, LLC.
DEED BK. 52422, PG. 186

125-127 CHURCH AVENUE
TAX MAP 22A LOT 102
N/F LAURA CAHALANE
DEED BK. 17797, PG. 148

PLANTATION STREET

8"CLAY FLOW

8" CI WATER

CONC. WALK

DMH
R=297.55
I(I)=293.95(E)
I(O)=293.85(W)
OTHER PIPE STUBS NOT IN USE

12"CMP

STOP

CB
R=297.31
I(I)=293.91(N)
I(O)=293.86(W)

69 PLANTATION STREET
TAX MAP 22A LOT 114
N/F DEBORAH A. KURCH
DEED BK. 39197, PG. 236

R&D EXISTING SEWER LINE, APPROX. 20 FEET (ONE PIPE LENGTH)

SMH8
R=298.14
I(I)=285.79(S)
I(I)=285.88(N)
I(O)=285.78(W)

LIMIT OF PHASE 1 WATER MAIN REPLACEMENT (STA 14+50±). CONNECT TO EXISTING WATER MAIN.

R&D EXISTING 8"GATE VALVE

7 ARROWHEAD AVENUE
TAX MAP 22A LOT 115
N/F KEITH M. LEBLANC

ARROWHEAD AVENUE

SMH10
R=295.02
I(I)=286.72(N)
I(I)=286.47(E)
I(O)=286.43(W)

CB
R=295.43
I(O)=291.71

6" CI WATER

4 ARROWHEAD AVENUE
TAX MAP 22A LOT 116
N/F CHRISTINE VALENTIN LOURDES
D.B. 61017, PG. 256

R&D EXISTING SEWER LINE, APPROX. 20 FEET (ONE PIPE LENGTH)

CB
R=295.39
I(I)=290.83(W)
I(O)=290.81(S)

CB
R=295.02
I(O)=291.85

STREET NAME

CONC. WALK

STOCKADE FENCE

HEDGE

51"O

4"GAS APPROX.

EOP

UP#14

12"CMP

8"CLAY

FLOW

17+00

16+00

15+00

4" ABANDONED

10" CI WATER

4"GAS APPROX.

ROW OF CONC. POSTS

C.L.F.

UP#13 W/ STUB UP

GUY

DMH
R=294.77
I(I)=287.49(N)
I(O)=290.45(E)
I(O)=287.47(S)

CONC. POST (TYP.)

CB
R=294.45
I(I)=291.15(E)
I(O)=290.15(W)

BIT. PARKING

CB
R=294.74
I(I)=-291.04(N)
I(I)=-290.57(E)
I(O)=-290.55(W)

R&D EXISTING SEWER MAIN

3" CI WATER ABANDONED

10" CI WATER

UP#11

UP#12

SMH9
R=297.06
I(I)=286.06(E)
I(O)=285.96(N)

APPROX. WSO PER TIE CARD

R&D EXISTING SEWER MAIN (TYP)

GRASS ATHLETIC FIELD

APPROX. 2" WSO PER TIE CARD SERVICE OFF HYDRANT

SMH7
R=297.38
I(I)=285.19(E)
I(O)=285.18(W)

SPEED LIMIT

APPROX. WSO PER TIE CARD

116-118 CHURCH AVENUE
TAX MAP 22A LOT 153
N/F LACKEY DAM PROPERTIES, INC.
DEED BK. 63641, PG. 285

CONTINUED ON SHEET 3.1

CHURCH AVENUE
TAX MAP 22A LOT 152
N/F ROCKDALE FOUNDATION
DEED BK.3315 PG.401
PARCELS "A" AND "B"

"OLIVER ASHTON MEMORIAL FIELD"
ATHLETIC FIELDS

CONTINUED BELOW

"OLIVER ASHTON MEMORIAL FIELD"
ATHLETIC FIELDS

203 CHURCH AVENUE
TAX MAP 22A LOT 131
N/F SCOTT A. NOEL
DEED BK. 61152, PG. 139

217 CHURCH AVENUE
TAX MAP 22A LOT 132
N/F JOHN GRIGORIADIS
DEED BK. 13037, PG. 276

227 CHURCH AVENUE
TAX MAP 22A LOT 135
N/F DANIEL LYNCH
DEED BK. 61800, PG. 27

DUGGAN WAY

177 CHURCH AVENUE
TAX MAP 22A LOT 125
N/F JEFFREY C. MASON
DEED BK. 38054, PG. 25

LEGION WAY

191 CHURCH AVENUE
TAX MAP 22A LOT 126
N/F SANDRA G. YOUNGSMA
DEED BK. 45302, PG. 252

CURB FLUSH WITH GROUND

4"WATER

R&D EXISTING SEWER MAIN

APPROX. WSO PER TIE CARD

PHASE 1
LIMIT OF WORK
STA 19+95±

APPROX. LOCATION 2" FORCE MAIN(S)

APPROX. WSO PER TIE CARD

4" CI WATER APPROX.

APPROX. WSO PER TIE CARD

4" CI WATER APPROX.

CB
R=292.87
I(I)=289.32(S)
I(O)=289.25(E)

CB
R=292.33
I(I)=288.83(W)
I(O)=288.85(E)

CB
R=290.73
I(I)=286.53(E)
I(I)=284.63(W)
I(O)=284.55(S)

CB
R=290.91
I(O)=287

4"GAS APPROX.

12"M

4"PVC

6"CLAY

8"PVC

(3)2"PVC

CHURCH AVENUE

18+00

19+00

20+00

21+00

22+00

23+00

8"CLAY

6"CLAY

FLOW

8" CI WATER APPROX.

SMH12
R=295.52
I(I)=292.23(E)
I(I)=291.93(NE)
I(I)=292.27(N)
I(O)=291.90(W)

CB
R=292.86
I(O)=289.31(N)

UP#15

UP#16

UP#17

IR FND

STONE RETAINING WALL

APPROX. WSO PER TIE CARD

APPROX. WSO PER TIE CARD

APPROX. WSO PER TIE CARD

CB
R=290.81
I(O)=284.55(N)
I(O)=284.32(S)

APPROX. WSO PER TIE CARD

BIT. PARKING

DMH
R=295.47
I(I)=291.71(E)
I(I)=289.17(S)
I(I)=289.97(W)
I(O)=289.15(N)

SMH11
R=295.62
I(I)=289.17(E)
I(I)=288.62(NE)
I(I)=288.74(SE)
I(O)=288.17(W)

12"PVC

CB
R=294.48
I(O)=291.86

15"RCP

198 CHURCH AVENUE
TAX MAP 22A LOT 151
N/F AMERICAN LEGION
DEED BK. 3800, PG. 51

214 CHURCH AVENUE
TAX MAP 22A LOT 148
N/F JESSING FAMILY
LIVING TRUST
DEED BK. 45748, PG. 232

226 CHURCH AVENUE
TAX MAP 22A LOT 147
N/F THOMAS V. KEANE
DEED BK. 27322, PG. 367

234 CHURCH AVENUE
TAX MAP 22A LOT 146
N/F JOANNE REAGAN
DEED BK. 60234, PG. 184

CONTINUED ON SHEET 3.3

H:_PROJECTS\NORTHBRIDGE\1137-NORTHBRIDGE-CHURCH AVENUE\DWG\PERMIT\1137-CHURCH AVE_SP-PHASE-1-REV0.DWG 03-31-25 10:45:11 AM - LAYOUT C3.2

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COMMONWEALTH OF MASSACHUSETTS
JAMES A. BERARDINO
No. 41717
REGISTERED PROFESSIONAL ENGINEER

PROJECT NAME
CHURCH AVENUE
RECONSTRUCTION PROJECT - PHASE 1
CHURCH AVENUE
NORTHBRIDGE, MASSACHUSETTS

PREPARED FOR
TOWN OF NORTHBRIDGE DPW
11 FLETCHER STREET
WHITINSVILLE, MA 01588

REVISIONS

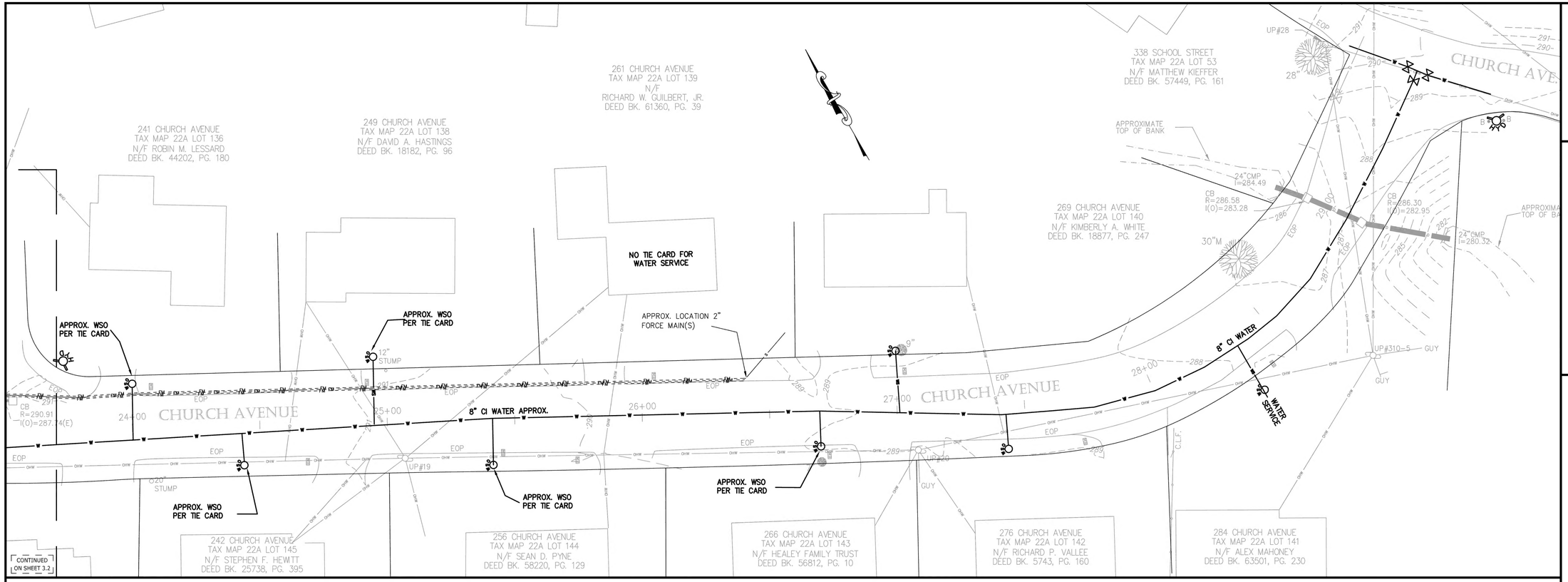
REV.	DATE	DESCRIPTION
1	3/20/25	ISSUED FOR BID

PROJECT NO.	TPE-1137
DESIGNED BY	TRB, WCN
CHECKED BY	RMM, BW
DATE	MARCH 1, 2024
CAD FILE	H:\1137-Church Ave_SP.dwg
PLAN NO.	L-415

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 feet

SHEET TITLE
EXISTING CONDITIONS & DEMOLITION PLAN
SHEET 2 OF 3

SHEET NO.
C-3.2



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SHEET TITLE

EXISTING CONDITIONS
& DEMOLITION PLAN

SHEET 3 OF 3

SHEET NO.

C-3.3

CONTRACTOR SHALL DISCONNECT ALL EXISTING WATER AND SEWER SERVICES AND RE-ESTABLISH CONNECTIONS TO NEW MAIN(S). NEW CURB STOPS TO BE PROVIDED FOR ALL WATER SERVICES.

ALL ALTERED SIDEWALKS AND CURBING SHALL BE TEMPORARILY REPAIRED WITH BITUMINOUS CURB AND SIDE WALK. STOCKPILE GRANITE CURBING FOR DPW PICK UP.

REFURBISHING/REBUILDING OF SEWER MANHOLES SHALL INCLUDE THE FOLLOWING: BRICK AND MORTAR INVERTS; INSTALL NEOPRENE BOOTS; HYDRAULIC CEMENT/PARGE ALL JOINTS, CRACKS AND PIPE PENETRATIONS; NEW FRAME AND COVERS.

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CHURCH AVENUE

RECONSTRUCTION PROJECT - PHASE 1

CHURCH AVENUE

NORTHBRIDGE, MASSACHUSETTS

PREPARED FOR

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PLAN NO.	L-415

GRAPHIC SCALE

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(IN FEET)
1 inch = 20 feet

SHEET TITLE

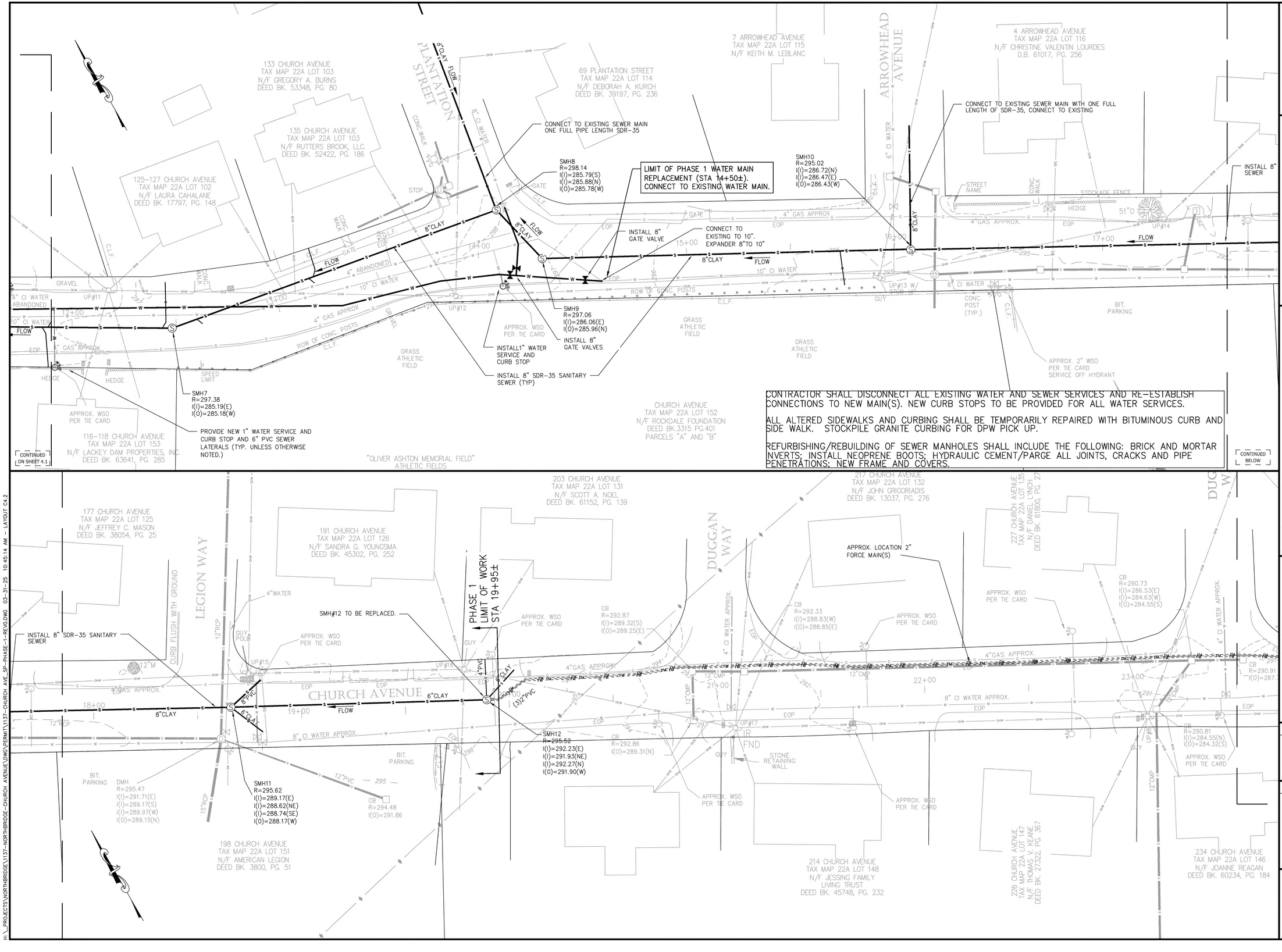
ROADWAY IMPROVEMENT PLAN

SHEET 1 OF 2

SHEET NO.

C-4.1

H:_PROJECTS\NORTHBRIDGE\1137-NORTHBRIDGE-CHURCH AVENUE\DWG\PERMIT\1137-CHURCH AVE_SP-PHASE-1-REV0.DWG 03-31-25 10:45:13 AM — LAYOUT C4.1



H:_PROJECTS\NORTHBRIDGE\1137-NORTHBRIDGE-CHURCH AVENUE\DWG\PERMIT\1137-CHURCH AVE_SP-PHASE-1-REVO.DWG 03-31-25 10:45:14 AM - LAYOUT C4.2

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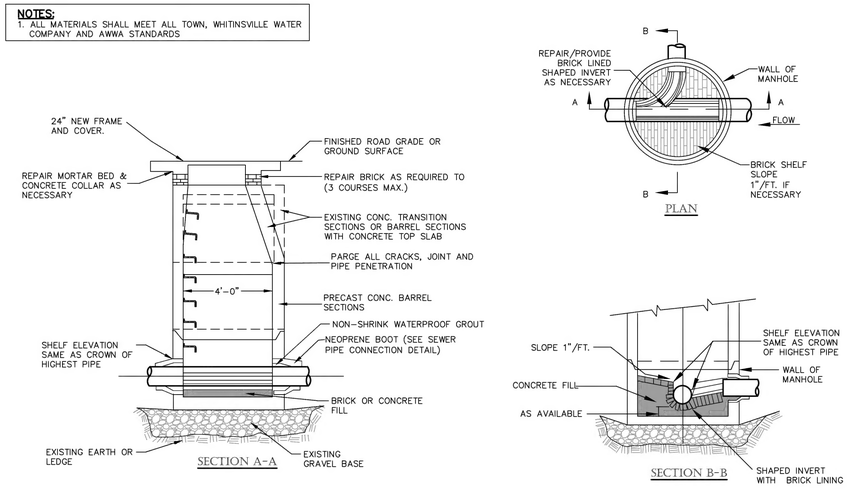
(IN FEET)
1 inch = 20 feet

SHEET TITLE
ROADWAY IMPROVEMENT PLAN
SHEET 2 OF 2

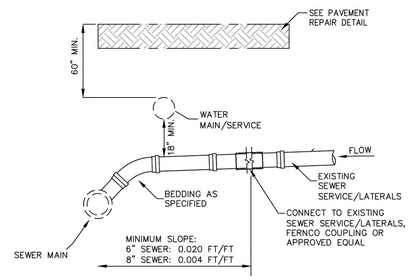
SHEET NO.
C-4.2

NOTES:
1. ALL MATERIALS SHALL MEET ALL TOWN, WHITINSVILLE WATER COMPANY AND AWWA STANDARDS



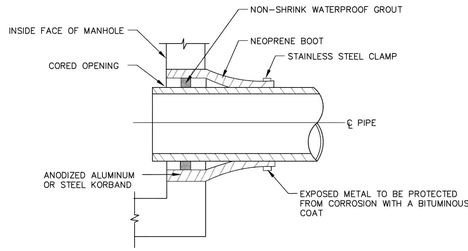
1 SEWER MANHOLE REAIRS
N.T.S.

NOTES:
1. ALL MATERIALS SHALL MEET ALL TOWN, WHITINSVILLE WATER COMPANY AND AWWA STANDARDS



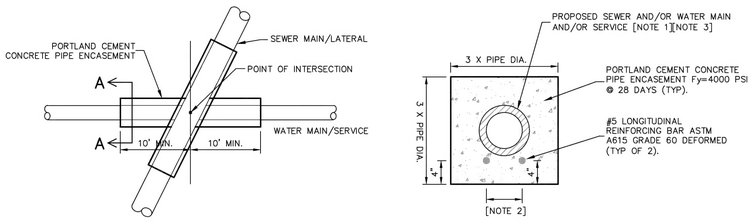
2 SERVICE CONNECTION TO SEWER MAIN
N.T.S.

NOTES:
1. ALL MATERIALS SHALL MEET ALL TOWN, WHITINSVILLE WATER COMPANY AND AWWA STANDARDS



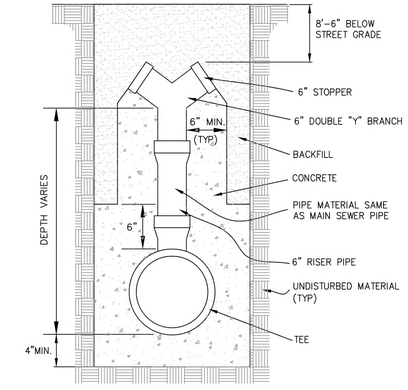
3 SEWER PIPE MANHOLE CONNECTION
N.T.S.

NOTES:
1. CONCRETE PIPE ENCASEMENT TO EXTEND 10 FT ALONG SEWER LINE AND WATER LINE FROM POINT OF INTERSECTION.
2. DISTANCE EQUAL TO PIPE DIAMETER.
3. CONCRETE PIPE ENCASEMENT REQUIRED WHENEVER PROPOSED SEWER MAIN/LATERAL IS WITHIN 10' OF PROPOSED WATER MAIN/SERVICE.

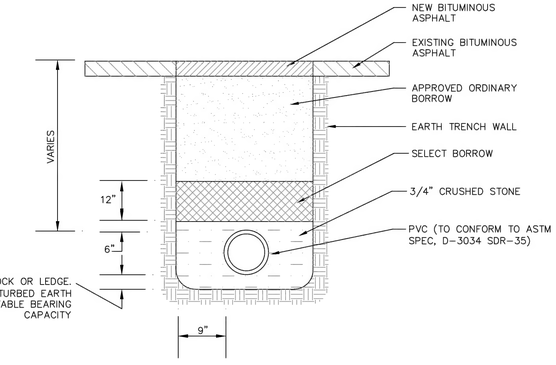


4 WATER & SEWER MAIN CROSSING
N.T.S.

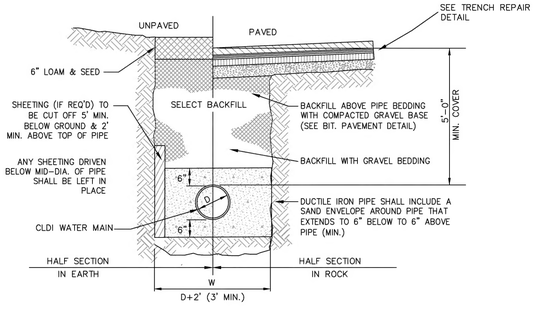
NOTES:
1. ALL MATERIALS SHALL MEET ALL TOWN, WHITINSVILLE WATER COMPANY AND AWWA STANDARDS



5 SEWER CHIMNEY RISER DETAIL
N.T.S.

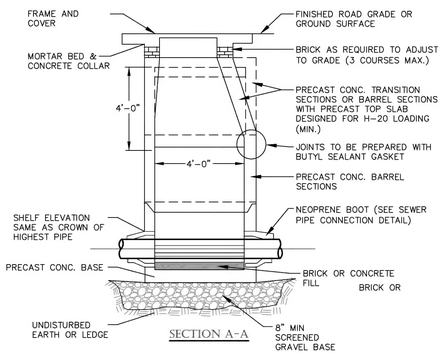


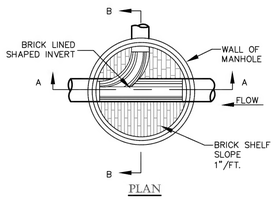
6 PVC PIPE TRENCH SECTION
N.T.S.

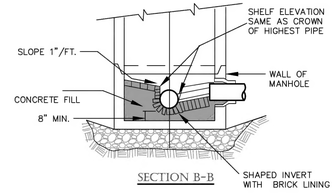


7 TYPICAL WATER TRENCH
N.T.S.

NOTES:
1. REINFORCED STEEL CONFORMS TO LATEST A185 SPEC. 0.12 SQ. IN./LINEAL FT. (0.15 SQ. IN. FOR 60" DIA) AND BASE BOTTOM.
2. CONCRETE COMPRESSIVE STRENGTH 4000 PSI MIN.
3. MANHOLE DESIGN CONFORMS TO LATEST ASTM C478 SPEC. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
4. JOINT SEALANT SHALL BE SYNTHETIC RUBBER GASKET THAT COMPLIES W/ C-443 OR C-361. 5. BASE SECTION SHALL BE ONE POUR MONOLITHIC.







8 PRECAST CONCRETE SEWER MANHOLE
N.T.S.
SUBJECT TO OXFORD ROCHDALE SEWER DISTICT REVIEW AND APPROVAL

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RECONSTRUCTION PROJECT - PHASE 1
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PREPARED FOR
TOWN OF NORTHBRIDGE DPW
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REVISIONS

REV.	DATE	DESCRIPTION
1	3/20/25	ISSUED FOR BID

PROJECT NO. TPE-1137
DESIGNED BY TRB, WCN
CHECKED BY RMM, BW
DATE MARCH 1, 2024
CAD FILE H:\1137-Church Ave_SP.dwg
PLAN NO. L-415

SHEET TITLE
CONSTRUCTION DETAILS
SHEET 1 OF 2

SHEET NO.
C-5.1

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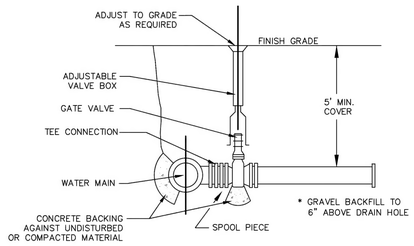
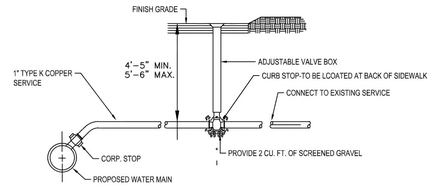
NOTES:
1. ALL FITTINGS SHALL BE COMPRESSION TYPE.
2. ALL APPURTENANCES SHALL CONFORM TO TOWN AND WHITINSVILLE WATER COMPANY SPECIFICATIONS.
3. MECHANICAL JOINTS TO BE MEGALUG, OR APPROVED EQUAL.

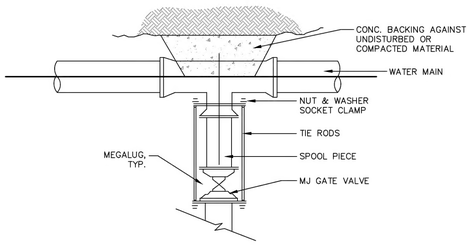


TYPICAL VALVE DETAIL



(DETAIL FOR GENERAL PURPOSES. GC TO COORDINATE WITH WHITINSVILLE WATER COMMISSION.

TYPICAL WATER SERVICE DETAIL



TYPICAL VALVE CONNECTION - RESTRAINED JOINT TEE
COORDINATE FINAL CONNECTION AND GATE LOCATION WITH WWC

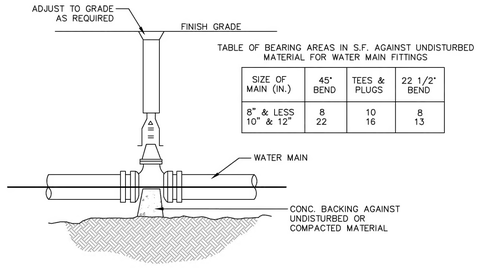
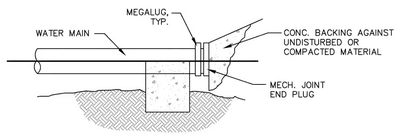


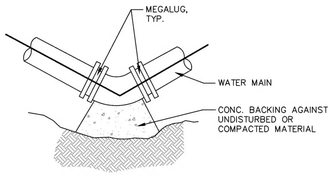
TABLE OF BEARING AREAS IN S.F. AGAINST UNDISTURBED MATERIAL FOR WATER MAIN FITTINGS

SIZE OF MAIN (IN.)	45° BEND	TEES & PLUGS	22 1/2° BEND
8" & LESS	8	10	8
10" & 12"	22	16	13

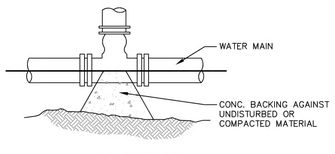
TYPICAL VALVE



TYPICAL PLUG DETAIL



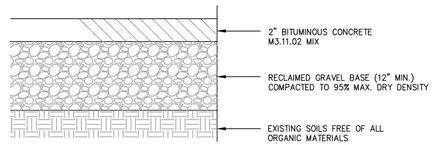
TYPICAL BEND DETAIL



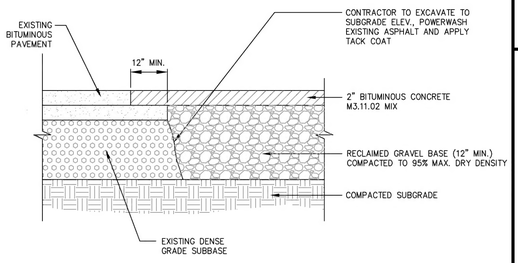
TYPICAL TEE

NOTES:
1. ALL MATERIALS SHALL MEET ALL TOWN, WHITINSVILLE WATER COMPANY AND AWWA STANDARDS

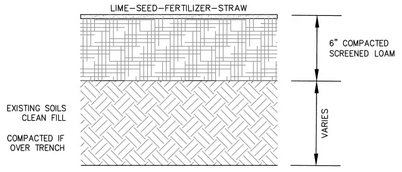
1 TYPICAL WATER SUPPLY DETAILS
N.T.S.



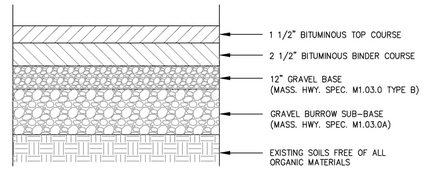
2 BITUMINOUS CONCRETE PATCHING
N.T.S.



3 PAVEMENT JOINTING
N.T.S.

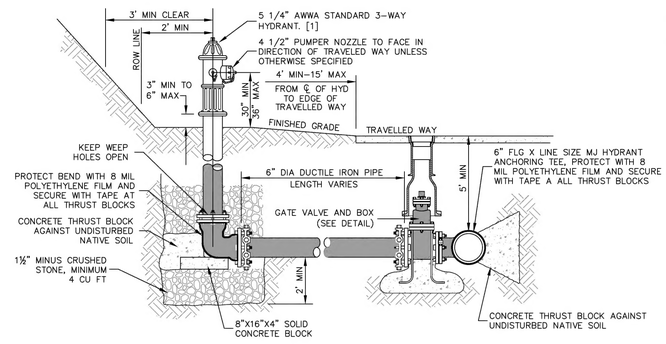


4 LOAM & SEED
N.T.S.



5 PERMANENT PAVEMENT REPAIR (SCHOOL STREET))
N.T.S.

NOTES:
1. HYDRANT SHALL MEET ALL TOWN, WHITINSVILLE WATER COMPANY AND AWWA STANDARDS AND BE UL/FM APPROVED AND EQUIPPED WITH (1) 4 1/2" PUMPER NOZZLE AND (2) 2 1/2" HOSE NOZZLES.
2. HYDRANT SHALL OPEN IN DIRECTION AS SPECIFIED BY THE LOCAL FIRE DEPARTMENT.
3. WHERE HYDRANT IS SHOWN BEHIND SIDEWALK, SET CENTER OF HYDRANT 1-FEET BEHIND SIDEWALK.



6 TYPICAL FIRE HYDRANT CONNECTION DETAIL
N.T.S.

TURNING POINT ENGINEERING
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P.O. Box 757 • Sutton, MA 01590
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www.tpecivildesign.com

COMMONWEALTH OF MASSACHUSETTS
JAMES A. BERARDINO
No. 41717
REGISTERED PROFESSIONAL ENGINEER

PROJECT NAME
CHURCH AVENUE
RECONSTRUCTION PROJECT - PHASE 1
CHURCH AVENUE
NORTHBRIDGE, MASSACHUSETTS

PREPARED FOR
TOWN OF NORTHBRIDGE DPW
11 FLETCHER STREET
WHITINSVILLE, MA 01588

REVISIONS

REV.	DATE	DESCRIPTION
1	3/20/25	ISSUED FOR BID

PROJECT NO. TPE-1137
DESIGNED BY TRB, WCN
CHECKED BY RMM, BW
DATE MARCH 1, 2024
CAD FILE H:\1137-Church Ave_SP.dwg
PLAN NO. L-415

SHEET TITLE
CONSTRUCTION DETAILS
SHEET 2 OF 2

SHEET NO.
C-5.2

H:_PROJECTS\NORTHBRIDGE\1137-NORTHBRIDGE-CHURCH AVENUE\DWG\PERMIT\1137-CHURCH AVE_SP-PHASE-1-REV0.DWG 03-31-25 10:45:14 AM - LAYOUT C5.2